This division was rather unexpected, and considerable excitement and confusion was the result in consequence of this near approach to what Mr. Leslie has been laboriously endeavouring to effect for some considerable time past, that is, that every large work under this commission be thrown open to public competition, so that the rate-payers may by this means partake of the benefit which must naturally result from the adoption of a good and wholesome system.

ON BRICKMAKING.

Sir,—Having seen an account in The Builder, (p. 182, *ante*), and considering it to set forth by far the best management of clay, together with other ingredients necessary for the purpose of making bricks and for their durability and colour, that I have ever before met with, I should feel much obliged if the writer of it would answer me the following questions, viz.:—1st. After the clay is raised, what sized mesh the sieve should have for passing the ashes through before being thrown on the clay, and whether the breeze might not be reduced so that the whole might pass through the same sieve, as I have put breeze in the clay, and though not coarser than a common white pea, it has invariably blistered the brick in the burning. 2nd. How to reduce the chalk to that state capable of being intimately mixed with the clay; my reason for asking this question is, that I have a field of fine red clay that does produce excellent building and floor bricks of a uniform red colour; I have also made floor bricks and pavings with the same clay that have burnt a very good white by adding whiting, &c., &c.; but the process of grinding chalk and manufacturing it into whiting is attended with too great an expense for general purposes. Hence my wish to know a more easy process of reducing it by other means, if such can be done. I remain an attached friend to The Builder and

A Subscriber from the First.

Wisbeach.

Sir,—Your correspondent asks first of all, what is the most advantageous size of the breeze to mix with the clay in brickmaking? As a general rule, I believe, it may be asserted that the smaller the better, so long as the extreme case of mere dust is avoided; for it will be evident on consideration that the smaller the breeze is the more thoroughly can it be incorporated with the mass of the materials constituting the brick, and the more uniformly they are blended the better will be the brick in every respect. With regard to the case in which your correspondent states, that he has used breeze "the size of a common white pea," which has blistered the bricks in which it was used, this blistering must, in my opinion, have proceeded from some other cause than the mere consequence of the admission of breeze of the average size stated. I think the cause would more likely proceed from haste in burning, that is, that the bricks were not thoroughly dried in the stacks, when they are very apt not only to blister, but to crack; and if in such case they have not been well pressed into the moulds, every crack and joint in them will open. The proper sized meshes through which to run the breeze to get it of a uniform size is somewhat arbitrary, and depends in some degree upon the amount of labour intended to be given to the proper mixing of the clay, for it is clear that to obtain fine breeze it will require much care in its various siftings; the general sized mesh used in the neighbourhood of London varies from about three-sixteenths to three-eighths of an inch for the square of each mesh, say from about four to six wires to the inch; but a five-sixteenth mesh is as good as any, it neither being too large nor too small, but of a medium size, fit for almost any purpose.

Many brickmakers, however, use their breeze much larger than the above meshes would allow, but, as a general rule, I would not recommend such an extreme size to be used. The more thoroughly the breeze is incorporated with the clay, the more likely is the brick to turn out well in the burning, as the heat will be more diffused through the mass than if it only had particles of breeze scattered through it in unequal portions and improperly mixed, which statement may be well illustrated by breaking and examining a badly prepared brick, in which clinker breeze will be easily traced.

With respect to your correspondent's second question, I can only repeat what I have already often said before, viz., that the more thoroughly the chalk is cleansed and mixed with the clay the more clear and uniform will be the colour of the brick. I scarcely understand what your querist means when he speaks of converting the chalk into whiting before he mixes it with the clay; that would indeed be too expensive, but if he calls *washing* the chalk turning it into whiting, then I can scarcely tell him what to do, as there is really no way of getting good clean white stuff without washing.

In ordinary purposes, however, the chalk is often merely broken into small lumps, and well slaked with water before mixing with the clay, but this method requires that the clay itself should be well kneaded and worked to mix the chalk and clay, otherwise the bricks will turn out full of white lumps, rotten, and of very poor quality. To produce really good bricks, the chalk ought to be washed in a common circular horse mill, and poured over the clay in a fluid state; this I take to be the only means of giving anything like certainty to the process. I have known many a clamp of bricks rendered almost valueless from the careless mixing of the chalk; and as a general rule it may be stated, that chalk cannot well be mixed too fine, and that it is more certain in its results if used in a fluid state before the clay is finally ground for the moulders.

I have seen some decent bricks, as far as regards colour, made in Yorkshire, without the application of breeze at all, or indeed of any other ingredient but the mere clay and a little chalk, but then they were coarse, and full of cracks, which appear to be characteristic of this mode of brickmaking. Brickmaking, as a separate trade, seems but little attended to in country districts, as it is not uncommon for mere farm labourers to turn their hands to brickmaking, as I have known in several cases; this probably accounts for the uniform coarseness of the bricks used in such parts of the country. Joseph Lockwood.

6, Child's-place, Temple.

ART-UNION EXHIBITION.

The works of art purchased by the prize-holders of the present year in the Art-Union of London, are now being exhibited to the subscribers and their friends in the Suffolk-street gallery. They are nearly 300 in number and form a very interesting collection. Although there are no leading pictures, the increase of taste exemplified in the choice of productions is highly satisfactory. A very judicious movement has been made on the part of the committee, who have commissioned Mr. Marshall to produce his excellent work "The First Whisper of Love" in marble, for a 300*l.* prizeholder, who deputed them to select. This branch of art has been as yet neglected by the society, and we see with pleasure their determination of further encouraging this important department by offering premiums. Among the excellent pictures (of which there are not a few), we noticed the extremely clever work entitled "The Gaugers are coming," by Philip, which was committed to utter darkness by the Academy; Elmore's work, "The Origin of the Guelph and Ghibeline quarrel;" the fine landscape by W. Linnell, that worthily created a sensation at the British Gallery; a beautiful landscape by Müller; Inskipp's "La Cephaline;" Johnston "Trysting Tree," that was treated so ill by the British artists; some fine Lee's; one or two by Hart; a particularly good Clint, and many excellent specimens of Cooke, Pyne, Bright, Montague, Boddington, Kennedy, Witherington, &c.

The water colours contain some favourable specimens of Topham, Wehnert, the two Frippe, Bentley, Fielding, Richardson, and others. The two bronzes exhibited are in the highest degree good. The society have been most happy in their selection of subjects.

The exhibition contains a proof of a lithograph from Ward's picture "La Fleur's departure," commissioned by the committee, of Mr. Templeton, with a view to encourage the production of finer works in this manner than have yet been attempted in England. There is also a reduced copy of Gibson's "Narcissus," made by Stevens, fac-similes of which are to be issued in statuary porcelain next year. The Duke of Cambridge visited the exhibition on Saturday last, and was attended round the gallery by Mr. G. Godwin and Mr. Pocock, the Honorary Secretaries. His Royal Highness entered warmly into the merits of some of the pictures, and expressed himself as ever, warmly interested in the prosperity of the Association.

IMPROVEMENTS AT BRISTOL.

The corporation of this ancient city seem determined not to be behind in the movement towards improvement now making itself felt. Amongst the most important projects is that of forming a new street between the terminus of the railways and Bristol bridge. If efficiently and wisely carried out, this cannot fail to prove of great value to the city. At a meeting of the town council, on the 13th instant, the Mayor, R. J. P. King, Esq., said in the course of his admirable address—"The necessity of this improvement will be obvious when I mention that the present road was only tolerable when the whole traffic upon it was that from London eastward, and that it is now altogether inadequate for the great railway traffic which traverses it not only from the east, but from the north, south, and west. The subject has been taken into consideration by the Improvement Committee, and a remedy recommended by them to the citizens, and the only thing which deterred the Improvement Committee from before bringing it forward was the great expense. It has been before the committee for two years, and that was the only obstacle. One of the advantages of a broad street into Bristol would be the ventilation and fresh air introduced into, at present, one of the most crowded districts; the better drainage of that part would be another great consequent improvement. If we look at the expense it does certainly form an obstacle, but it is an obstacle we must get over. If the burden fell on us in one or two years it would be immense; but if the cost be spread over 20 years, it will be greatly reduced, and when put in comparison with the benefits to be derived, I do not think that the citizens will consider the taxation worthy to be set off against the advantages. One thing I wish gentlemen to guard against, and that is looking at the sum in the total only. If gentlemen would calculate what each individual had to pay, the sum would be found so moderate in comparison with the great improvements to be effected, that I do not think it would be felt. It is not the intention of the committee, nor the architects, Mr. Pope or Mr. Fripp, to recommend the erection of magnificent buildings. All that is recommended is a good wide street of 60 feet, leaving it to individual parties to construct such houses as they may deem most desirable for carrying on their business; by this means all the expenses attending enforcing strict uniformity in the plans will be avoided, and the street will still be, if not so handsome, as useful and sightly to the city. Another consideration, which I hope will not be lost sight of, is, that the money will be expended in our own city, and a great part of it amongst the industrious mechanics. It will merely be an exchange of property, from one class to another—an exchange the best of any—from the wealthy to the poor. If the money was to go out of our city, I confess I should think more of it."

Another thoroughfare is to be improved, and Bristol-bridge widened. The Froome, at present a source of infection, is to be deepened, and many other important steps taken. Relative to the proposed new street (Victoria-street it is to be called), we may mention that the length is 2,100 feet, and total width 65 feet. The number of premises required to be purchased is 263; the number of lots to be created in the new street, allowing 18 feet to each lot, is 167. Frontage in addition to the above-mentioned will be gained on the proposed line of improvement to the extent of 1,800 feet, equal to 100 additional lots. It was estimated that the first division, commencing at the terminus and ending in Temple-street, would cost, allowing as a set-off the value of ground to be cleared and sold for building lots, 13,000*l.*; the second, commencing in Temple-street and ending in Thomas-street, 11,550*l.*; the third, from the corner of Long-row to the corner of Red-

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